

SYSTEM AND METHOD FOR CONTINUOUS OPTIMIZATION OF CONTROL-VARIABLES DURING OPERATION OF A NUCLEAR REACTOR

Abstract of Disclosure

A system and method is provided for a continual updating of the optimization of multiple operational control-variables during the operation of a nuclear reactor over a plurality of fuel cycles. A networked computer system includes one or more hosts programmed to execute an optimization process to identify and make changes in quantitative values of operational control-variables that result in improved efficiency and operational flexibility. Optimization and updating of operational control-variables may proceed selectively under manual control for inputting specific optimization constraints and reactor state-point information or may proceed autonomously through a repetitive performing of the optimization process based upon a predetermined user-defined strategy stored on the network. Communications between users and networked processors is facilitated by use of a TCP/IP server connected to the Internet so that portions of the optimization process may be conducted contemporaneously at remote locations and/or the results made accessible to users via conventional browser enabled computers.